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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,094	07/08/2003	John Frederick Ackerman	125498	8679

31838 7590 09/30/2004

HASSE GUTTAG & NESBITT LLC  
7550 CENTRAL PARK BLVD.  
MASON, OH 45040

EXAMINER
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MEEKS, TIMOTHY HOWARD

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/615,094	Applicant(s) ACKERMAN ET AL.	
	Examiner Timothy H. Meeks	Art Unit 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 08 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                              | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>7/8/03</u> . | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 refers to a step (e), however, none of the claims from which claim 15 depends recites a step (e).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conner (5,780,106) in view of Bessen (4,031,274).

Conner discloses a process comprising providing a turbine blade having an external surface and internal surface connected to the external surface by cooling holes, loading a coating chamber with the blade, heating the chamber to a temperature of less than 600 °F, preferably 350 to 450 °F, flowing a tri-alkyl aluminum coating gas such as tri-isobutyl aluminum into the heated, evacuated coating chamber for 1 to 3 hours to deposit an aluminum coating on the internal and external surfaces of the blade, and heat treating the coated component to form an aluminide coating on the internal and external surfaces of the blade (abstract, col. 1, line 63 to col. 2, line 45, col. 3, line 19 to col. 4, line 45).

Conner, although disclosing an "evacuated" coating chamber, does not disclose use of pressures in the claimed range. However, from the disclosure of an "evacuated" chamber, it is clear that the process is conducted at below atmospheric pressure which is inclusive of values in the claimed range, hence, use of pressures in the claimed range would have been expected to be operable. Furthermore, because it is well settled that "where the principal difference between the claimed process and that taught by the reference is a temperature difference, it is incumbent upon applicant to establish criticality of that temperature difference", see *Ex Parte Khusid* 174 USPQ 59. This principle is clearly applicable to other process parameters such as pressure. Absent evidence showing such criticality, use of the claimed pressure would have been *prima facie* obvious.

Conner does not explicitly disclose the temperature at which the diffusion is performed or use of a nonoxidizing atmosphere therefore. However, because Bessen discloses at col. 4, lines 1-45 and example 9 that diffusing an aluminum coating on a superalloy substrate at temperatures in the claimed range and in an inert gas atmosphere is effective for forming a diffusion aluminide coating on the blade, it would have been obvious to have used the claimed temperatures and inert gas atmosphere for the diffusion treatment because doing so would have been expected to be effective for providing the aluminide coating.

Claims 8-10 and 12-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conner in view of Bessen as applied above, and further in view of Murphy (5,856,027).

The above prior art does not disclose the step of forming an alumina coating by exposing the aluminide coating to an oxidizing atmosphere at the claimed temperatures. However, because Murphy discloses at col 1 and col. 5, lines 5-20 that forming such an adherent alpha alumina coating by oxidizing a diffusion aluminide coating at the claimed temperatures provides a coating for receiving a ceramic thermal barrier coating, it would have been obvious to have so formed an alumina coating to render the surface of the aluminide receptive to a ceramic thermal barrier coating.

The above prior art does not disclose the thickness of the aluminide coating. However, because Murphy discloses at col. 3, lines 65-68 that aluminide bondcoats having thicknesses in the claimed ranges are effective for protecting turbine parts, it

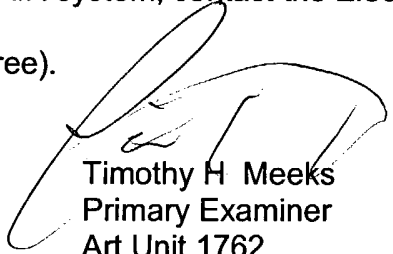
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would have been obvious to have deposited the aluminide coating to thicknesses in the claimed ranges with the reasonable expectation of adequate protection of the parts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy H Meeks whose telephone number is 571-272-1423. The examiner can normally be reached on Mon 6-6 and T-Th 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on 571-272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Timothy H Meeks  
Primary Examiner  
Art Unit 1762